

Weather

4-4 The student will demonstrate an understanding of weather patterns and phenomena. (Earth Science)

4.4.3 Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.

Taxonomy level: 2.6-B Understand Conceptual Knowledge

Previous/Future knowledge: In kindergarten (K-4), students demonstrated an understanding of seasonal weather changes. In 2nd grade, students recalled weather terminology, including temperature, wind speed and direction, and precipitation (2-3.2) and illustrated the weather conditions of different seasons (2-3.3). In 6th grade (6-4.4), students will summarize the relationship of the movement of air masses, high and low pressure systems, and frontal boundaries to storms.

It is essential for students to know that daily changes in weather result from changes in weather conditions, including temperature, wind speed and direction, and precipitation.

Temperature The condition of how hot or cold the air is at a given time

Wind speed The condition of how fast the wind is moving

Wind direction The condition determined by where the wind is coming from

Precipitation The condition of the type of water falling to Earth from the clouds

- As the seasons of the year change, temperature changes may cause precipitation changes; winds blowing from the north may bring colder air than winds blowing from the south or west.—
- One day's weather conditions can be compared to another in the same season, or compared to daily weather that occurs in different seasons.
- Examples of weather conditions are fair weather, showers or light rain, clear skies with cold temperatures, days of clouds and precipitation, or windy fair days or windy stormy weather; however, the comparisons should be related to the four conditions in the indicator.
- Weather patterns involve weather conditions that are repeated due to the season of the year. For example, summer temperatures are generally warmer than winter temperatures.

It is not essential for students to know air pressure or humidity conditions. Weather related to different types of fronts or air masses is not expected at this grade level.

Assessment Guidelines:

The objective of this indicator is to *compare* daily and seasonal weather conditions and patterns; therefore, the primary focus of assessment should be to compare conditions from one day to another or one season to another and also to compare weather conditions in a season one year to the next. However, appropriate assessments should also require students to *identify* a particular weather condition or seasons of the year based on the weather conditions; or *exemplify* conditions that would occur at a particular season.